

Most Common Conditions in USA

1. Low back pain 59 mil (OA,DDD, FM,AS)
2. Osteoarthritis 27 million(knee,CMC1,DIP)
3. Fibromyalgia 5 million (pain + insomnia)
4. RA 1.3 million (symmetric polyarthritis)
5. Gout 8.3 mill (acute,episodic,monarthritis)
6. Bursitis/tendinitis (overuse syndromes)

Acute Mono/Oligoarthritis (Joint Tap?)

- Gout: intermittent, urate crystals, ↑ uric acid
 - Septic (GC, Staph, Strept, Gm-, Lyme, Tbc)
 - Viral (HBV, HCV, EBV, Rubella, Parvo B19)
 - Pseudogout: Ca⁺⁺ pyrophosphate crystals
 - Reiters: arthritis + urethritis + conjunctivitis
- Consider:* Fracture, bursitis, tendinitis, CTS

Acute Polyarthritis: Differential Dx

- Viral arthritis (Hep B/C, Rubella, Parvo B19)
 - GC or septic arthritis (Staph, Strept, Tbc)
 - Reactive arthritis (Chlamydia, Shigella)
 - Acute rheumatic fever (migratory onset)
 - Serum sickness (w/ fever, hives-PCN, sulfa)
- Consider:* sickle crisis, PMR, early CTD

Chronic Mono/Oligoarthritis: Diff. Dx

- Osteoarthritis: knee, hip, DIP, PIP, CMC1
 - Pseudogout (w/crystals, chondrocalcinosis)
 - AVN: trauma, EtOH, steroids, Sickle, SLE
 - SpA (PsA, reactive, IBD, AS), Sarcoid, JIA
 - Infection: fungal, Tbc, E. Nodosum, Lyme
 - Neuropathic (Charcot): IDDM, lues, EtOH
- Consider:* PVS, Mets, foreign body, Osteomy

Chronic Polyarthritis: Differential Dx

- Osteoarthritis: primary or 2° (ie, trauma)
 - Rheumatoid (symmetric MCP, PIP, wrist)
 - Tophaceous gout or pseudogout
 - Psoriatic arthritis (psoriasis, nail pitting)
 - CTD onset: SLE, PSS, MCTD, myositis, IBD
 - JIA: polyarticular or systemic (Still's)
- Consider:* Fibromyalgia, PMR, hypothyroid

History, Clues & Clinical Associations

Young: JIA, SLE, Reiter's, GC, SpA, hypermobility
 Middle age: FM, RA, tendinitis/bursitis, Back Pain, AS
 Elderly: OA, crystals, PMR, septic, osteoporosis, drugs ⇒
 Males: Gout, AS, reactive arthritis, OA hip
 Females: Fibromyalgia, RA, SLE, OA
 White: PMR, GCA, Wegeners Black: SLE, sarcoidosis
 +Family Hx: AS, gout, Herberden's nodes of OA
 Episodic: gout, CPPD, Lyme, Behcets, FMF, palindromic
 Additive: OA, RA, SpA, Psoriatic or reactive arthritis
 Migratory: Viral, rheumatic fever, SLE, GC arthritis
 Monarthritis: Septic, Crystal, OA, FX, AVN, Reactive

Rheumatic Review of Systems

FEVER: Septic, SLE, MCTD, ReA, ARF, FMF, HBV, IBD, AOSD
 PAN, Kaw, Sweet, DIL, GCA, gout, pseudogout, Osteomy, Behcet
OCULAR: Sjogren, GCA, Behcets, AS, ReA, RA, JIA, IBD, Sarcoid, Kawasaki, Wegeners, Brucella, RP, HCQ, steroids
ORAL ULCERS (Pain?): SLE(-), ReA (-), IBD(-), Lues (-), Behcets (+), Herpes (+), MTX (+), Gold (+)
GENITAL ULCERS: GC(+), Behcet(+), RS(-), PsA(-), Lues(-)
RASH: SLE, PsA, DM/PM, Vasculitis, Cryo, Lyme, AOSD, ARF, viral (HBV, rubella, parvo), Sweets, sarcoid, E. nodosum
TIGHT SKIN: PSS, CREST, morphea, MCTD, Eos Fasciitis, PCT, pseudosclerodactyly (IDDM, ↓T4), drugs (see Table⇒)
NAIL Δ's: PsA, ReA, Vasculitis, SBE, HOA, DM/PM, SLE, PSS
RAYNAUDS: PSS, MCTD, SLE, RA, myositis, Vasc, APL, Cryo
SAUSAGE DIGIT: ReA, MCTD, PSS, PsA, JIA, Sarcoid, Sickle
MYALGIA: FM, DM/PM, rhabdo, SLE, DIL, RA, PAN, Serum sickness, AOSD, Sjogrens, ↓T4, viral, Vasc, drugs (see Table⇒)
SPINE PAIN: FM, Lumbar strain, DDD, AS, SpA, ReA, JIA, DISH, Vertebral FX, spine stenosis, Tbc, Brucella, Mets, discitis
HEEL PAIN: SpA (AS, ReA, PsA, IBD), OA, plantar fasciitis, Achilles tendinitis, Calcaneal FX, fluorosis, retinoid therapy
NODULES: RA, gout (tophi), ARF, xanthoma, Paniculitis, PAN, ENodosm, sarcoid, MCTD, MTX, calcinosis, leprosy, MRH, gang
SEROSITIS: SLE, RA, MCTD, DIL, ARF, AOSD, FMF, Whipple
PULMONARY: Wegeners, Churg-Strauss, DM/PM, sarcoid, SLE, APL, PSS, MCTD, Sjogren, RA, AS, DIL, Goodpastures
DYSPHAGIA: PSS, CREST, MCTD, Crohns, Sjogrens, myositis
GI: PSS, MCTD, IBD, Vasculitis, Behcets, Whipples, SLE, FMF, hepatitis, bypass syndrome, PBC, Cryo, NSAID, drugs
RENAL: SLE, SS, PAN, HSP, Wegener, Cryo, PSS, Gout, amyloid
NEURO: CTS, SLE, PAN, Cryo, Lyme, RA, amyloid, GCA, drugs
 ↓ **SLEEP:** FM, OA, rotator cuff, AS, steroids, depression, pain

AOSD adult-onset Stills dz; APL antiphospholipid; ARF acute rheumatic fever; AS ankylosing spondylitis; AVN avascular necrosis; CPPD calcium pyrophosphate deposition dz; CRI Chronic renal insufficiency; CRYO globulinemia; CSA cyclosporin A; CTD connective tissue disease; CTS carpal tunnel syndrome; DDD degenerative disc dz; DIL drug-induced lupus; DM/PM dermatomyositis; ENA extractable nuclear antigen; EtOH alcohol; FM fibromyalgia; FMF familial Mediterranean fever; FX fracture; GANG ganglion; GC gonococcal; GCA giant cell arteritis; HBV hepatitis B; HCV hepatitis C; HCQ hydroxychloroquine; HOA hypertrophic osteoarthropathy; HSP Henoch-Schonlein purpura; IBD inflammatory bowel dz; IFN interferon; IL interleukin; JIA juvenile arthritis; KAW Kawasaki; LAC lupus anticoagulant; LE lupus erythematosus; METS metastasis; MRH multicentric reticulonodular histiocytosis; MTX methotrexate; OA osteoarthritis; OSTEOMY osteomyelitis; PAN polyarteritis nodosa; PARVO virus; PBC primary biliary cirrhosis; PCM penicillamine; PLT platelet; PM polymyositis; PMR polymyalgia rheumatica; PSA psoriatic arthritis; PSS diffuse scleroderma; PVS pigmented villonodular synovitis; ReA Reactive arthritis; RHABDO rhabdomyolysis; RP relapsing polychondritis; SI sacroiliitis; SpA spondyloarthritis; SS Sjogrens; T4 hypothyroidism; TBC tuberculosis; TCN tetracycline; VASC vasculitis; XRT radiation

Rheumatic Disorders in Elderly

- * **INFLAMMATORY:** PMR, GCA, vasculitis, CPPD, gout, septic arthritis, Osteomyelitis, older-onset lupus
- * **MECHANICAL:** Osteoarthritis, spinal stenosis, FX, back pain, trauma, heel spurs, rotator cuff tendinitis
- * **METABOLIC/ENDOCRINE:** Osteoporosis, Pagets, ↓T4, myxedema, amyloid, IDDM, cholesterol emboli
- * **NEOPLASIA-RELATED:** Sjogrens, DM/PM, Cryo, vasculitis (lymphoma, hairy-cell leukemia), 2° Gout, panniculitis (pancreatic CA), carcinomatous arthritis, atrial myxoma, hypertrophic osteoarthropathy, Mets
- * **DRUG-INDUCED:** Gout (diuretics, ASA, Cytotoxic, EtOH); Drug-Induced Lupus (quinidine, procainamide, hydralazine, INH, phenytoin, TCN, TNF & ACE inhib); Myopathy (steroids, Statins, clofibrate, taxol, Floxins, colchicine, PCM, CsA, HCQ); AVN (EtOH, XRT, Pred, bisphosphonate); Osteopenia (steroid, heparin, Dilantin)

Systemic Lupus Erythematosus Criteria

4 of 11 at any time required for diagnosis of lupus

1. Butterfly rash: malar erythema, spares nasolabial fold
2. Discoid rash: look at scalp, ears, trunk, +scarring
3. Photosensitivity: ↑ rash or N/V on sun exposure
4. Oral ulcers: painless, soft palate or nasopharyngeal
5. Arthritis (not arthralgias!)
6. Serositis: pleuritis or pericarditis
7. Renal: proteinuria (>0.5gm/d), cellular casts
8. Neurologic: seizures or psychosis
9. Heme: ↓Plt, ↓WBC, ↓Lymphs, hemolytic anemia
10. Immune: +Sm, +dsDNA, +RPR, +LAC, +APL Ab
11. +ANA (5% normals & 15% Elderly are ANA+)

** helpful (but not criteria): ↓C3/C4, alopecia, Raynaud

Rheumatoid Arthritis (ACR/EULAR Criteria)

2-10 Large joints	1 pt	Low +RF or +CCP	2pt
1-3 Small Joints	2 pt	High +RF or +CCP	3pt
4-10 Small Joints	3 pt	Joint Sxs ≥6 wks	1pt
>10 Jts (+1 sm jt)	4 pt	High ESR or CRP	1pt

RA diagnosis requires ≥ 6 points

Gout FAQs

- * @Onset: acute, episodic, ascending mono/oligoarthritis
- * Seen primarily in men & postmenopausal women
- * Polyarticular attacks uncommon; only w/ tophaceous
- * Fever, leukocytosis and ↑ESR are common
- * Examine fluid! Crystals seen on light microscopy!
- * Inflammatory syn fluid WBC 3-100K/mm³ (PMNs)
- * 40% of acute attacks will have normal serum urate
- * Negative association between RA and gout
- * Acutely, Rx w/ NSAID or steroids (not colchicine)
- * OK to start/continue allopurinol during acute attack
- * Adjust colchicine (watch allopurinol) w/ renal impair
- * Consider Wt loss, losartan, fibrates, vit C, d/c HCTZ

Drug-Induced Syndromes

- Arthralgia/Myalgia:** quinidine, cimetadine, IFN, IL2, vaccines, quinolones, aromatase & HIV protease inhibitors, Remeron, pyrazinamide, β-Blockers, raloxifene, aromatase inhibitors
- Myopathy/Myositis:** Steroids, PCM, AZT, HCQ, IFN, IL2, CsA, Statins, fibrates, EtOH, cocaine, taxol, daptomycin, imatinib, colcrys
- Tendinitis/Rupture:** Quinolones, isotretinoin, EtOH, Statins
- Gout:** Diuretics, ASA, ChemoRx, CsA, EtOH, EMB, fructose
- Lupus/ANA+:** hydralazine, procain, quinidine, TCN, INH, PCM, Dilantin, Tegretol, Thorazine, lithium, PCM, SSZ, β-Blockers, ACE & TNF inhib., ticlodipine
- SCLE:** from PPI, HCTZ, CCB
- Osteonecrosis:** Steroids, EtOH, XRT, trauma, bisphosphonates
- Osteopenia:** Steroids, chronic heparin, phenytoin
- Scleroderma/tight skin:** Vinyl chloride, bleomycin, docetaxel, pentazocine, solvents, carbidopa, tryptophan, rapeseed oil
- Vasculitis:** allopurinol, amphetamine, cocaine, HCTZ, PCM, PTU, Bactrim, HBV vaccine, cytarabine, TNF inhibitors, minocycline

ANA pattern	Antigen	Clinical Correlate
Diffuse	DeoxyRNP.....	Low titer, Nonspecific
	Histones.....	Drug-induced lupus
Peripheral	ds-DNA.....	50% of SLE (specific)
Speckled	U1-RNP.....	>90% of MCTD
	Sm (Smith).....	30% of SLE (specific)
	Ro (SS-A).....	Sjogrens 60%, SCLE, Neonatal LE, ANA(-)LE
	La (SS-B).....	50% Sjogrens, 15% SLE
	Scl-70.....	40% of PSS (diffuse dz)
	PM-Scl(PM-1).....	Overlap PSS/myositis
	Jo-1.....	Myositis+lung dz + arthritis
Nucleolar	RNA Polymerase...	40% of PSS
Centromere	Kinetochore.....	75% CREST
Cytoplasmic (nonspecific)	Ro; ribosomal P....	Sjogrens; SLE psychosis
	Cardiolipin	Thrombosis, Sp. Abort, ↓Plt
	AMA, ASMA.....	PBC, autoimmune hepatitis

Rheumatoid Factor (IgM anti-IgG antibody)

- 80% RA pts are RF(+). ↑↑↑ titers w/ ↑Dz severity, nodules, erosions, RA risk. Not Diagnostic! Not a screening test!
- Also RF positive (low titer): Infections (SBE, Tbc, Lues, HBV, HCV), CRI, renal transplant, other CTD (SS, SLE, JRA, MCTD, PSS, DM/PM, Cryo), Sarcoid, chr Pulmonary & Liver dz
- CCP Abs more (>90%) specific. Assoc w/ severity, Xray Δs
- CCP not found w/ HBV/HCV; but (+) in < 15% PsA, TBC

RHEUM Labs (3 fold increase in +ANA or RF in elderly)

- ↓WBC: SLE, Cytotoxics, DIL, MCTD, Feltys, Overlap, HBV
- ↑WBC: Vasculitis, gout, septic, ReA, FMF, AOSD, Sweet, steroid
- ESR>100: RA, PMR, GCA, Gout, septic, AOSD, TBC, nephrotic
- LE cells: discovered 1948, seldom used, nonspecific
- dsDNA: specific for SLE, especially w/ nephritis, ↑ morbid risk
- Order ENA (RNP, Sm, Ro, La) w/ ↑↑ titer ANA speckled pattern
- Sm (Smith): specific for SLE, often with nephritis
- Cardiolipin Ab (usually IgG): [overlap w/ false pos. VDRL, LAC] assoc w/ thrombotic events, spont Abortion, ↓Platelets
- Anti-Neutrophil Cytoplasmic Ab: cANCA in >80% Wegeners, pANCA in Churg-Strauss, microscopic PAN, vasc, IBD, SLE
- ↓C3/C4: SLE, urticarial vasc, Cryo, Serum Sick, PSGN, SBE, liver